What is claimed is:

1. An optical fiber composite comprising:

(a) a first optical fiber having a first chromatic dispersion, D_1, at the wavelength of a signal-carrying lightwave;

(b) a second optical fiber that:

(b1) has a second chromatic dispersion, D_2, at the wavelength of the signal-carrying lightwave, the second chromatic dispersion having the sign opposite to that of D_1; and

(b2) is spliced to one end of the first optical fiber; and

(c) a third optical fiber that:

(c1) has the same chromatic dispersion, D_1, as the first optical fiber at the wavelength of the signal-carrying lightwave;

(c2) is shorter than the first optical fiber; and

(c3) is spliced to the free end of the second optical fiber.

2. An optical fiber composite as defined in claim 1, wherein:

(a) the first optical fiber has a length of L_1;

(b) the third optical fiber has a length of L_3; and

(c) the ratio L_3/ L_1 is at most 0.1.

3. An optical fiber composite as defined in claim 1, wherein the length, L_3, of the third optical fiber is at most 1 km.

4. An optical fiber composite as defined in claim 1, wherein the absolute value of the second chromatic dispersion, D_2, is larger than that of the first chromatic dispersion, D_1.

5. A method for producing an optical fiber composite, the method comprising the steps of:

(a) providing a first optical fiber having a first chromatic dispersion, D_1, at the wavelength of a signal-carrying lightwave;

(b) providing a second optical fiber having a second chromatic dispersion, D_2, at the wavelength of the signal-carrying lightwave, the second chromatic dispersion having the sign opposite to that of D_1;

(c) providing a third optical fiber having the same chromatic dispersion, D_1, as the first optical fiber at the wavelength of the signal-carrying lightwave;

(d) designing the total length, L_t, of the optical fiber composite;

(e) designing the mean chromatic dispersion, D_m, of the optical fiber composite;

(f) determining the length, L_2, of the second optical fiber by using the parameters D_1, D_2, L_t, and D_m;

(g) splicing the second optical fiber to one end of the first optical fiber;

(h) splicing the third optical fiber to the free end of the second optical fiber;

(i) cutting off a length of optical fiber from at least one free end of the first and third optical fibers so that the total length of the optical fiber composite can be adjusted to the designed length, L_t, with the third optical fiber being shorter than the first optical fiber.

6. An optical fiber cable comprising a plurality of optical fiber composites, each of which composites comprises:

(a) a first optical fiber having a first chromatic dispersion, D_1, at the wave-

length of a signal-carrying lightwave;

(b) a second optical fiber that:

(b1) has a second chromatic dispersion, D_2, at the wavelength of the signal-carrying lightwave, the second chromatic dispersion having the sign opposite to that of D_1; and

(b2) is fusion-spliced to one end of the first optical fiber; and

(c) a third optical fiber that:

(c1) has the same chromatic dispersion, D_1, as the first optical fiber at the wavelength of the signal-carrying lightwave;

(c2) is shorter than the first optical fiber; and

(c3) is fusion-spliced to the free end of the second optical fiber.

7. An optical-fiber cable as defined in claim 6, wherein the fusion-spliced portions between the first optical fiber and the second optical fiber and between the second optical fiber and the third optical fiber are coated with plastic such that the fusion-spliced portions have the same diameter as the other portions of the optical fiber.

8. A method for producing an optical fiber cable comprising a plurality of optical fiber composites, the method comprising the steps of:

(a) providing a first optical fiber having a first chromatic dispersion, D_1, at the wavelength of a signal-carrying lightwave;

(b) providing a second optical fiber having a second chromatic dispersion, D_2, at the wavelength of the signal-carrying lightwave, the second chromatic dispersion having the sign opposite to that of D_1;

(c) providing a third optical fiber having the same chromatic dispersion, D_1, as the first optical fiber at the wavelength of the signal-carrying lightwave;

(d) designing the total length, L_t, of the optical fiber composite;

(e) designing the mean chromatic dispersion, D_m, of the optical fiber composite;

(f) determining the length, L_2, of the second optical fiber by using the parameters D_1, D_2, L_t, and D_m;

(g) forming the optical fiber composite by splicing the second optical fiber to one end of the first optical fiber and splicing the third optical fiber to the free end of the second optical fiber;

(h) forming the optical fiber cable by bundling together a plurality of the optical fiber composites; and

(i) cutting off a length of optical fiber from at least one free end of the first and third optical fibers of each of the optical fiber composites in the optical fiber cable so that the total length of the optical fiber composite can be adjusted to the designed length, L_t, with the third optical fiber being shorter than the first optical fiber.